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TRANSMITTAL FORM <small>(to be used for all correspondence after initial filing)</small>	Application Number	10/803,237
	Filing Date	3/18/2004
	First Named Inventor	Beat Heer, et al.
	Art Unit	1616
	Examiner Name	Alton Nathaniel Pryor
Total Number of Pages In This Submission	Attorney Docket Number	A01503

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment/Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____ <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	Rohm and Haas Company		
Signature	<i>Kenneth Crimaldi</i>		
Printed name	Kenneth Crimaldi		
Date	8/25/06	Reg. No.	40,968

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FEE TRANSMITTAL

For FY 2006

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) **500.00**

Complete If Known

Application Number	10/803,237
Filing Date	3/18/2004
First Named Inventor	Beat Heer, et al.
Examiner Name	Alton Nathaniel Pryor
Art Unit	1616
Attorney Docket No.	A01503

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ Money Order ☐ None ☐ Other (please identify): _____

☒ Deposit Account Deposit Account Number: 18-1850 Deposit Account Name: Rohm and Haas Company

For the above-identified deposit account, the Director is hereby authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☐ Charge fee(s) indicated below, except for the filing fee

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FEE CALCULATION (All the fees below are due upon filing or may be subject to a surcharge.)

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180
Total Claims	Extra Claims	Fee (\$)
- 20 or HP = _____ x _____ = _____		
HP = highest number of total claims paid for, if greater than 20.		
Indep. Claims	Extra Claims	Fee (\$)
- 3 or HP = _____ x _____ = _____		
HP = highest number of independent claims paid for, if greater than 3.		

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets - 100 = **Extra Sheets** / 50 = **Number of each additional 50 or fraction thereof** x **Fee (\$)** = **Fee Paid (\$)**

4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

Other (e.g., late filing surcharge): Appeal Brief **500.00**

SUBMITTED BY

Signature	<i>Kenneth Crimaldi</i>	Registration No. (Attorney/Agent)	40,968	Telephone	215-592-3000
Name (Print/Type)	Kenneth Crimaldi	Date	8/25/06		

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GROUP ART UNIT: 1616

APPEAL NO. _____

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES**

APPEAL BRIEF

In re the Application of Beat Heer et al.

Filed: March 18, 2004

Serial No. 10/803,237

For: MICROBICIDAL COMPOSITION

Kenneth Crimaldi
Attorney for Appellants

Alton Nathaniel Pryor
Examiner

Enclosed:
Transmittal Form

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Beat Heer et al.

Application No.: 10/803,237

Group No.: 1616

Filed: March 18, 2004

Examiner: Alton Nathaniel Pryor

For: MICROBICIDAL COMPOSITION

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

APPEAL BRIEF

This is an appeal from the rejection dated June 5, 2006 finally rejecting claims 1, 6-8 and 10-12. The rejected claims are set out in Appendix J. Appellants filed a Notice of Appeal pursuant to 37 C.F.R. § 1.191 on August 17, 2006.

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(C) Real Party In Interest

The owner of the present application and the invention contained therein is
ROHM AND HAAS COMPANY.

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(D) Related Appeals, Interferences or Judicial Proceedings

No appeals, interferences or judicial proceedings are known to Appellants, the Appellants' legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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(E) Status Of Claims

The status of the claims is as follows:

Claims pending: 1 and 3-12

Allowed claims: 3-5 and 9

Claims objected to: none

Claims canceled: 2

Claims rejected: 1, 6-8 and 10-12

Claims on appeal: 1, 6-8 and 10-12

Claims withdrawn from consideration by the Examiner: none.

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(F) Status Of Amendments

Appellants have not filed an amendment after final rejection in the present application.

(G) Summary of Claimed Subject Matter

Claim 1: The present invention provides a microbicidal composition comprising:

(a) at least one non-halogenated 2-alkyl-4-isothiazolin-3-one selected from substituted and unsubstituted 2-(C₁-C₄)alkyl-4-isothiazolin-3-ones [page 1, lines 19-20]; and

(b) at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzothiazolone [page 1, lines 21-22];

wherein a weight ratio of said at least one non-halogenated 2-alkyl-4-isothiazolin-3-one to said at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzothiazolone is from 750:1 [page 3, lines 26-28] to 1:1 [page 10, Table 1, 5th row].

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(H) Grounds of Rejection to be Reviewed on Appeal

Claims 1, 6-8 and 10-12 stand rejected under 35 USC § 102(b) as being anticipated by Yamaguchi (JP 2001302418).

(I) Argument

Regarding whether or not claims 1, 6-8 and 10-12 are unpatentable over Yamaguchi:

(a) Yamaguchi Fails to Disclose at Least One Limitation of the Present Claims

All claim limitations must be taught or suggested in the prior art. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). At least two key limitations of independent claim 1 are not taught or suggested in any of the cited references, namely: (i) the combination of “at least one non-halogenated 2-alkyl-4-isothiazolin-3-one selected from substituted and unsubstituted 2 (C₁-C₄)alkyl-4-isothiazolin-3-ones” with “at least one of 2,2’-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone;” and (ii) “a weight ratio of said at least one non-halogenated 2-alkyl-4-isothiazolin-3-one to said at least one of 2,2’-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone [is] from 750:1 to 1:1.”

The final Office Action asserts that “Yamaguchi teaches a combination comprising 99 to 1 parts MIT and 1 to 99 parts MBI.” In fact, the disclosure of Yamaguchi is not specific, disclosing only a microbicide containing “1 to 99 parts by weight of a benzisothiazolone derivative of general formula I and 99 to 1 parts by weight of an isothiazolone derivative of general formula II.” (para. [0009], emphasis added). Therefore, Yamaguchi does not teach the claimed combination of biocides. Moreover, Yamaguchi does not disclose the claimed range of biocide ratios from 750:1 to 1:1. Accordingly, Yamaguchi does not teach key limitations of claim 1.

(b) Yamaguchi Fails to Disclose the Claimed Invention with Sufficient Specificity

1. The Claimed Biocide Combination is not Disclosed

The disclosure of Yamaguchi, as discussed in part (a) above, relates only to a genus containing many compounds, and not the species recited in independent claim 1. “It is well established that the disclosure of a genus in the prior art is not necessarily a disclosure of every species that is a member of that genus.” *Atofina v. Great Lakes*

Chem. Corp., 441 F.3d 991, 999 (Fed. Cir. 2006). Although a small genus can be a disclosure of species, see *In re Petering*, 301 F.2d 676 (C.C.P.A. 1962), the disclosure must have “sufficient specificity to anticipate” the claim. *Atofina* at 1000. Yamaguchi discloses, in general formulas I and II, a great many compounds (para. [0011]). For example, in formula II, R1 and R2 each may be hydrogen or C₁-C₄ alkyl (8 choices¹), to give 9x9=81 possibilities. R3 may be hydrogen, C₁-C₆ alkyl (33 choices²) or C₁-C₄ alkoxy (8 choices, as for C₁-C₄ alkyl), to give a total of 42x81=3,402 possibilities for Formula II. Formula I has somewhat fewer, but with >>34 choices for R (H or C₁-C₈ alkyl), although they are multiplied by only 2 choices for X, there still are hundreds of thousands of total possibilities when the possibilities for Formula I are subsequently multiplied by the 3,402 for formula II.

Even if, *assuming arguendo*, one were to limit Yamaguchi’s general disclosure to the compounds listed in paragraphs [0013] and [0014] (although these are listed only as “examples” and not as “preferred” compounds), there still would be eight compounds mentioned within formula I and six for formula II, giving 48 possible biocide combinations. When the C.C.P.A. found, in *Petering*, that a genus could anticipate a species, there were only 20 compounds in the genus. *Petering* at 681. In the present case, a larger number of combinations is possible in the disclosure of Yamaguchi, none of which has been identified specifically. Moreover, as pointed out previously, the more limited disclosure of paragraphs [0013] and [0014] is not “preferred,” and would appear to one skilled in the art to be merely a listing of common biocides, rather than a teaching of effective combinations. Therefore, Yamaguchi does not disclose the species within Appellants’ claimed combination of biocides, and cannot anticipate the present invention.

2. The Claimed Range of Biocide Ratios is not Disclosed

Synergy has been demonstrated in the present invention over the claimed range from 750:1 to 1:1, whereas the reference discloses a range of 99:1 to 1:99. The

¹ The possibilities are: methyl, ethyl, propyl, isopropyl, n-butyl, sec-butyl, isobutyl and t-butyl.

² The possibilities are: methyl, ethyl, propyl, isopropyl, n-butyl, sec-butyl, isobutyl, t-butyl, n-pentyl, 2-pentyl, 3-pentyl, isopentyl, 2-methylbutyl, neopentyl, 1,1-dimethylpropyl, 1,2-dimethylpropyl, n-hexyl, 2-hexyl, 3-hexyl, isohexyl, 3-methylpentyl, 2-methylpentyl, 1,1-dimethylbutyl, 2,2-dimethylbutyl, 3,3-

reference thus teaches a broad range, not supported by data, for a large number of biocide combinations, while the present invention demonstrates synergy for an overlapping, but quite distinct range. "If the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range, depending on the other facts of the case, it may be reasonable to conclude that the narrow range is not disclosed with 'sufficient specificity' to constitute an anticipation of the claims." M.P.E.P. § 2131.03(II); *see also Atofina v. Great Lakes Chem. Corp.*, 441 F.3d 991 (Fed. Cir. 2006). In *Atofina*, the prior art range of 100 to 500°C completely encompassed the claimed range of 330 to 450°C, yet the Federal Circuit held that "[g]iven the considerable difference between the claimed range and the range in the prior art, no reasonable fact finder could conclude that the prior art describes the claimed range with sufficient specificity to anticipate this limitation of the claim." *Atofina* at 999. Moreover, the court also held that a prior art range of 0.001 to 1.0% did not anticipate a range of 0.1 to 5.0%, "although there is a slight overlap." *Id.* at 1000. In this case, Yamaguchi's range overlaps with Appellants' claimed range, and moreover, Yamaguchi discloses only a totally speculative range of biocide ratios. Appellants have shown that the claimed biocide combinations are synergistic only over part of the range disclosed in Yamaguchi. Beyond a ratio of 1:20, Appellants observed no synergy (see page 10), although Yamaguchi's range goes up to 1:99. Moreover, Appellants have observed synergy beyond 99:1, the other end of Yamaguchi's range. Yamaguchi does not disclose Appellants' observed and claimed range of synergistic ratios, but in fact discloses non-synergistic ratios and fails to disclose some synergistic ratios. Therefore, Appellants respectfully submit that the disclosure of the reference lacks "sufficient specificity" to support the anticipation rejection, according to the standards set forth in the M.P.E.P. and *Atofina*.

3. Claims 7 and 10

These dependent claims narrow the isothiazolone biocide from "substituted and unsubstituted 2-(C₁-C₄)alkyl-4-isothiazolin-3-ones" to a single biocide, 2-methyl-4-

dimethylbutyl, 2,3-dimethylbutyl, 1,2-dimethylbutyl, 1,3-dimethylbutyl, 2-ethylbutyl, 1-ethyl-1-methylpropyl, 1-ethyl-2-methylpropyl, 1,1,2-trimethylpropyl and 1,2,2-trimethylpropyl.

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isothiazolone-3-one. Since claims 7 and 10 recite a more limited combination of biocides than claim 1, Yamaguchi is still further from disclosing the claimed invention with "sufficient specificity to anticipate" these claims. *Atofina* at 1000.

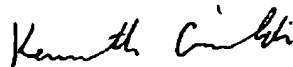
CONCLUSION

Based on the foregoing, Appellants respectfully submit that the pending claims are currently in condition for allowance. Appellants respectfully request the Board to pass the pending claims to allowance.

Enclosed herewith, Appellants have filed a Certificate of Mailing to establish the timely filing of this Appeal Brief.

The Commissioner is hereby authorized to charge any additional fee which may be required, or to credit any overpayments to Deposit Account 18-1850.

Respectfully submitted,



Kenneth Crimaldi
Attorney for Appellants
Registration No. 40,968

ROHM AND HAAS COMPANY
100 Independence Mall West
Philadelphia, PA 19106-2399
August 23, 2006

(J) Claims Appendix

1. A microbicidal composition comprising:
 - (a) at least one non-halogenated 2-alkyl-4-isothiazolin-3-one selected from substituted and unsubstituted 2-(C₁-C₄)alkyl-4-isothiazolin-3-ones; and
 - (b) at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone;wherein a weight ratio of said at least one non-halogenated 2-alkyl-4-isothiazolin-3-one to said at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone is from 750:1 to 1:1.
6. The composition of claim 1 in which said at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone is 2-methylbenzisothiazolone and said weight ratio is from 750:1 to 2.5:1.
7. The composition of claim 6 in which said at least one non-halogenated 2-alkyl-4-isothiazolin-3-one is 2-methyl-4-isothiazolin-3-one.
8. The composition of claim 7 in which said weight ratio is from 125:1 to 2.5:1.
10. The composition of claim 1 in which said at least one non-halogenated 2-alkyl-4-isothiazolin-3-one is 2-methyl-4-isothiazolin-3-one.
11. A household product, cosmetic, toiletry, shampoo, soap or detergent comprising the microbicidal composition of claim 10.

12. The household product, cosmetic, toiletry, shampoo, soap or detergent of claim 11 in which said at least one of 2,2'-dithiobis(N-methylbenzamide) and 2-methylbenzisothiazolone is 2-methylbenzisothiazolone and said weight ratio is from 750:1 to 2.5:1.

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(K) Evidence Appendix

No evidence was submitted during prosecution.

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(L) Related Proceedings Appendix

There are no related proceedings.